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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,721	10/18/2001	Michael Slocombe	74120-301396	8719

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EXAMINER

CLARK, ISAAC R

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/982,721

Applicant(s)

SLOCOMBE ET AL.

Examiner

Isaac R Clark

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/10/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-11 are presented for examination.

Priority

2. The effective filing date for the subject matter in the pending claims in this application is 11/16/2001.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because the following reference characters have been used to designate multiple items.
 - a. "92" designates Routing table in Fig. 4, and DNS Req. in Fig. 5
 - b. "94" designates Routing Algorithm in Fig. 4 and DNS Request in Fig. 5
 - c. "96" designates BGP routing updates in Fig. 4 and both and DNS response and DNS request in Fig. 5
 - d. "98" designates anycast address in Fig. 4 and DNS Response in Fig. 5
4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-8, 10, and 11 rejected under 35 U.S.C. 102(e) as being anticipated by McCanne (US Published Application No. 2005/0010653).

7. As per claim 1, McCanne discloses a method of content delivery in a network, comprising (Paragraph 0028):

associating devices in a Domain Name System (DNS) with content server systems located in the network (Paragraph 0156, Fig. 13, N* are DNS devices and S* are content server systems), the content server systems maintaining and serving content of a content provider (Paragraph 0157), each DNS device configured to resolve the name of the content provider to an address for the content server system with which such DNS device is associated (Paragraph 0156); and assigning to the DNS devices a common address, the common address being usable to resolve the name of the content provider such that a request for content of the content provider by a content requestor is sent to the content server system nearest the content requestor (Paragraph 0148 DNS servers N1*, N2* and N3* assigned common anycast address; Paragraph 0148: DNS server configured to resolve to nearest server to client).

8. As per claim 2, McCanne discloses the method of claim 1, wherein the common address is an anycast address (Paragraph 0148).

9. As per claim 3, McCanne discloses the method of claim 2, wherein routing information associated with the anycast address is advertised over the network by the DNS devices in accordance with the Border Gateway Protocol (Paragraph 0148).

10. As per claim 4, McCanne discloses the method of claim 1, wherein the content server systems are geographically distributed across the network (Paragraph 0094).

11. As per claim 5, McCanne discloses the method of claim 1, wherein the DNS devices are collocated with the content server systems with which the DNS devices are associated (Paragraph 0156).

12. As per claim 6, McCanne discloses the method of claim 1, wherein each content server system and associated DNS device are located in a different Internet Service Provider Point of Presence (Paragraph 0106).

13. As per claim 7, McCanne discloses the method of claim 1, wherein each content server system and associated DNS device is located at or near an entry point of the network (Paragraph 0103).

14. As per claim 8, McCanne discloses the method of claim 1, wherein the content server systems comprise cache systems that cache content of the content provider (Paragraph 0182).

15. As per claim 10, claim 10 describes a computer program product storing instructions for carrying out the method described in claim 4. Claim 10 is rejected for the same reasons as claim 4.

16. As per claim 11, McCanne discloses a content distribution system comprising:
content distribution nodes connected to a content provider, a content provider Domain Name System (DNS) server and a content requestor DNS server via the Internet, each content distribution node including a DNS server coupled to and associated with a content server system, the content server system operating to store content originating with the content provider and serve content to a content requestor (Fig. 12: content servers associated with DNS servers, Paragraph 0157: content servers form nodes in a distribution system), and each DNS server being assigned an address common to all of the DNS servers in the content distribution nodes (Paragraph 0133);
the common address being provided by the content provider DNS server to the content requestor DNS server in response to a DNS request from the content requestor DNS server (Paragraph 0148: N* sent to client for a DNS query), thereby enabling the content requestor DNS server to use the Internet to select a path to the content distribution node nearest the content requestor and forward the DNS request to the selected node (Paragraph 148: DNS request routed to nearby DNS node); and
the DNS server in the selected node being configured to resolve the name of the content provider in the DNS request to an IP address of the associated content server system and cause the IP address to be returned to the content requestor (Paragraph 0149: DNS server selects nearby content server).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCanne (US Published Application No. 2005/0010653) in view of Christensen et al. (US Patent 6,330,605, filed 11/19/1998, hereinafter Christensen).

19. As per claim 9, McCanne teaches the method of claim 8 but fails to explicitly teach that at least one of the cache systems comprises at least two cache servers connected in a cluster, and wherein the at least two cache servers are coupled to a switch usable to select from among the at least two cache servers based on a selection policy.

20. Christensen teaches a proxy cache cluster system comprising at least two cache servers connected in a cluster (Fig. 3, col. 5, lines 32-40), and wherein the at least two cache servers are coupled to a switch usable to select from among the at least two cache servers based on a selection policy (col. 5, lines Fig. 5: assign loading based on ratings of cache servers).

21. It would have been obvious to one of ordinary skill in this art at the time the invention was made to combine the teaching of McCanne and Christensen because they both deal with distributing content from content providers to requesters.

Furthermore, the teaching of Christensen to modify the content distribution system taught by McCanne to implement a cache as a cache cluster of at least two cache servers would increase the availability of services by providing load balancing within the cache (See Christensen col. 2, lines 60-64).

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to "Content request routing and load balancing for content distribution networks".

- a. US Patent 6,687,731 issued to Kavak teaches DNS server system using anycast addressing

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac R Clark whose telephone number is (571)272-3961. The examiner can normally be reached on Monday-Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (571)272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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IRC

 JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
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